

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003681**Date Inspected:** 20-Aug-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1430**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Fabrication**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

CWI: Mr. Sun Bo

Orthotropic Box Girder (OBG):

Heavy Tower Shop #3:

ZPMC presented QA with a "Notification of Witness Inspection" document #882 which states that deck plate closed rib welds on DP594-001, DP606-001 and DP546-001 are to be ultrasonically inspected today for the purpose of determining the amount of weld penetration today at 1430 hours. Around 1500 hours the QA Inspector observed ZPMC ultrasonic Inspectors Mr. Li Li Ming, Mr. Ma Ji Long and Mr. Tang Xing Shan performing ultrasonic depth of penetration inspections of portions of deck panel DP594-001 welds 1 through 10, DP546-002 welds 1 through 8 and DP606-001 welds 1 through 6. The QA Inspector observed the ultrasonic Inspectors are using a black felt pen to mark depth of penetration measurements where they had measured less than complete weld penetration. The QA Inspector observed that ZPMC ultrasonic Inspectors scanning deck panel DP352-002 instead of deck panel DP352-001 which was listed on the "Notification of Witness Inspection" document #882. The QA Inspector asked QC representative Mr. Shen Xuejun if the "Notification of Witness Inspection" document

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

is correct or if the ultrasonic Inspectors are on the wrong location. Mr. Shen Xuejun said the ZPMC ultrasonic inspectors are inspecting the correct deck plate (DP352-002), and that the "Notification of Witness Inspection" document #882 lists the wrong number. See the photograph below for additional information.

Bay 1

The QA Inspector observed ZPMC personnel welding of deck plate DP057-001 closed ribs using gantry #2. The QA Inspector observed six welders using welding procedure specification WPS-B-T-2342-U1(Urib)-4 using the submerged arc welding process for the cover pass of partial penetration groove welds 1, 2, 5, 6, 9 and 10, at the same time. ZPMC has multiple flux cored welding manipulators attached to a movable gantry that runs on a track along the length of the deck plate. The QA Inspector observed ZPMC QC Inspector Mr. Sun Wei has recorded a welding travel speed of 515 mm per minute. As the welding commences, each of the welders is responsible for one of the welding heads. Welder Mr. Xu Guo Yin, stencil 059443 had a welding current of approximately 690 amps and 25.0 volts. Welder Mr. Chen Jie, stencil 059468 had a welding current of approximately 690 amps and 25.0 volts. Welder Mr. Xiang Huan Feng, stencil 059416 had a welding current of approximately 685 amps and 25.2 volts. Welder Mr. Xiang Jie, stencil 059378 had a welding current of approximately 680 amps and 25.1 volts. Welder Ms. Gao Xin Dong, stencil 059361 had a welding current of approximately 685amps and 24.8 volts. Welder Mr. Jiang Ting Goang, stencil 062265 had a welding current of approximately 685 amps and 25.0 volts. Items observed appear to comply with project specifications.

Around 1720 hours ZPMC QC representative Mr. Shen Xuejun informed the QA Inspector that at 1900 hours ZPMC QC and ABF QA Inspection personnel will be conducting initial visual weld inspections of deck panel DP015-001 in bay #1. Following QC Inspector Mr. Sun Bo and ABF Inspector Mr. Ding Bao hua marking the weld defects the QA Inspector performed visual inspections of DP015-001 and marked four additional areas of weld overlap. Mr. Sun Bo said this deck panel and DP057-001 are needed as soon as possible and he will visually inspect DP057-001 welds as soon as they are cooled down following completion of the welding of the closed ribs. The QA Inspector informed Mr. Bo that this inspection request will be turned over the next shift of QA Inspectors.



Summary of Conversations:

See above.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco 13816942685, who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
